CHAPTER 4. ESTABLISHING MANAGEMENT GOALS AND OBJECTIVES

4-1. Responsibility for Control and Administration of Natural Resources.

Control and administration of natural resources, including fish and wildlife, on military lands and waters generally is considered to be the responsibility of the respective installation. However, technical assistance and cooperation should be sought, when necessary, from appropriate public agencies and institutions. Cooperation with state and Federal agencies is handled through execution of cooperative agreements (DA Pam 420-7/AFR 126-1/NAVFAC INST. 11015.4/MCO P11000.8, app. A). These agreements can be brief but should state the purpose of cooperation, legal authority, responsibilities, and what each cooperator agrees to do. In general, natural resources will be managed in the public interest under the principles of multiple-use-sustained-yield, within the limitations of the overriding military mission.

4-2. Establishment of Priorities.

4-2.1. Military Mission. The establishment of management goals and objectives for a specific installation should be based upon its habitat potentials and the species found on the installation. Public access to available natural resources should be controlled and managed so as not to interfere with the military mission or result in security risks or safety hazards.

4-2.2. Endangered and Threatened Species. Within the limitations of the military mission, first priority should be given to the protection and preservation of habitat containing or used by endangered and threatened species. These resources are irreplacable and should be protected and managed to enhance their value.

4-2.2.1. Fish and Wildlife Service and National Marine Fisheries Service. Federal agencies are required by law to insure that their actions do not jeopardize the survival or adversely affect the "critical habitat" of endangered and threatened species. The Fish and Wildlife Service is delineating critical habitat areas. Also, the Fish and Wildlife Service and the National Marine Fisheries Service have developed guidelines to assist Federal Departments and agencies in meeting their responsibilities under the Endangered Species Act of 1973, (28 December 1973, Pub. L. 93-205, 87 Stat. 884, and as amended 10 November 1978 by Pub L. 95-632, 92 Stat. 3751). These Services have been delegated the responsibilities of the Departments of the Interior and Commerce for implementing the Act. Jurisdiction over endangered and threatened flora is divided among the Secretaries of Agriculture, Commerce, and the Interior.

4-2.2.2. Critical Habitat. "Critical habitat", is any air, land, or water area, including any elements thereof, which the Secretary of the Interior has determined essential to the survival of wild populations of a listed species. Critical habitat has a strong meaning under the law, and no Federal agency may take any action which will modify this habitat. In the same context, to "jeopardize the continued existence of" relates to any action which reasonably would be expected to result in the reduction of the reproductive ability, numbers, or distribution of a listed species to the extent that the loss would pose a threat to the continued survival or recovery of the species in the wild. "Destruction or (adverse) modification" relates to any action which would have a detrimental effect upon any of the constituent elements of critical habitat which are necessary to the survival or recovery of such species. Constituent elements of critical habitat include, but are not limited to: land, air, and water areas; physical structures; topography; flora; fauna; climate; human activity; and the quality and chemical content of soil, water, and air. The requirements for survival or recovery of listed species include: space for normal growth, movement, or territorial behavior; nutritional requirements such as food, water, and minerals; sites for breeding, reproduction, or rearing of offspring; cover shelter; or other biological, physical, or behavioral requirements.

4-2.2.3. Consultation and Assistance. It is the responsibility of the Secretary of the Interior to make the final determination of critical habitat for listed species, or to amend or terminate such determinations. The Fish and Wildlife Service and the National Marine Fisheries Service will seek consultation, as appropriate, with the states in which the listed species habitat occurs. Essentially, the consultation and assistance procedures relative to

endangered and threatened species are handled through the regional offices of these Services.

4-2.3. Recreational Benefits. The next priority in natural resources management should be given to the management and conservation of those areas capable of providing recreation use, such as fishing, hunting, nature walks, camping, winter sports, and water sports. Although recreational values are emphasized in the management of such areas, the overall welfare of fish and wildlife as a vital resource base should be given high priority.

4-2.4. Greatest Net Public Benefit. The remaining areas on an installation should be managed to provide for the greatest net public benefit. This determination should be based upon an analysis of the supply-and-demand relationship of the various resources, the relationship of the various resources and uses to each other, and the ecological factors involved. In determining the greatest net public benefit, full consideration should be given to tangible, intangible, social, historical, aesthetic, cultural, and economic values.

4-3. Establishment of Goals and Objectives. Generally, the goals in fish and wildlife management are to further the enhancement or development of fish and wildlife resources by protecting, restoring, developing, and managing land and other habitat for the reasonable production of the species. Another goal should be to allow public enjoyment and utilization of fish and wildlife through nature-oriented recreation. Possible conflicts with mission safety, such as might occur in management that would permit the use of areas adjacent to runways by birds or other wildlife, resulting in animal-aircraft strikes, should be avoided. The emphasis should be on game and nongame, native or indigenous species, except such exotic species as the ring-necked pheasant, chukar partridge, and various fish which have become well-established in the wild and are generally considered desirable. Introduction and release of exotic species should be avoided or done only under conditions approved by Federal and state conservation agencies. As previously indicated, the first priority should be to protect and preserve threatened and endangered species and their habitat. A deliberate effort should be made to prevent the reduction of such species. At the same time, an objective should be to maintain an optimum balance within the fish and wildlife populations. For example, game species should not be managed to the exclusion of nongame species, and predators should not be killed unnecessarily.

4-3.1. Wildlife Management.

4-3.1.1. Land and Water Base. Wildlife management goals and objectives should be based upon a realistic appraisal of what there is to work with in the form of current wildlife, soils, acreage, vegetation, climate, and other environmental conditions. Practical Wildlife Management (app B, No. 15) suggests that if what you have does not lend itself easily to what you hope to have, you can either spend a lot of work, money, and time to change things, with no guaranteed success, or re-think your situation, find substitute but nearly equivalent goals, and build on what is present.

4-3.1.2. Wildlife Populations as Indicators of Habitat Conditions. The presence and numbers of native species in an area constitute one of the best indications of habitat conditions since these species tend to occupy habitat, including newly created or altered habitat, in numbers which the area can support. An area with suitable cover and plenty of agricultural crops and associated weeds for food is likely to be occupied by farm game and other seed-eating species. An area with a mixture of large nut-producing trees and conifers is likely to have squirrels and, if the area is large enough and has suitable openings, wild turkey. The presence of woodcock in an area probably indicates the presence of alder thickets and a good population of earthworms. Thus, if pheasant hunting is desired on an installation, but there are no pheasants within 100 miles, and the soil is too sandy or infertile to support the crops pheasants thrive on, it is probably best to consider quail, grouse, or doves instead. About the only way to have pheasant shooting in such situation is put-and-take hunting, which does not contribute substantially to sustained natural resource management. One of the best approaches in establishing goals is to determine which species are present and to improve conditions for those species.

4-3.1.3. Habitat Management Potentials for Selected Species. Although much is known about habitat requirements for many wildlife species, there is still much to learn. What is known, however, should be used and related to careful analyses of the information developed from soil, water, vegetation, wildlife, and other natural resources inventories conducted on the installation to establish wildlife goals. Development of comprehensive plans using a featured species approach opens the way to decision-making based upon long-range goals, strategies, and objectives. The featured species approach matches wildlife species to the most ap-

propriate habitats available, taking into consideration public interest and all other natural resources involved. In this or other approaches, a management objective should be to maintain a diversity of vegetation and other habitat conditions on a sustained-yield basis. In featured species management, consideration should be given to maintaining a good balance among game and nongame animals and to conserving endangered or threatened species. For game species, one objective should be to provide for proper harvesting and control, consistent with the carrying capacity of existing or improved habitat. For nongame species, the objective should be to provide for or enhance nonconsumptive recreational, educational, and other values of the animals. Fish and wildlife management practices should be integrated with the overall natural resources management of the installation.

4-3.2. Fish Management.

4-3.2.1. Water and Related Resources Base. The same general principles described in subparagraph 4-3.1. apply to fish in relation to habitat conditions and carrying capacity. Although the immediate environment for fish and other aquatic organisms is flowing, impounded, or, perhaps, coastal water, the land use and other practices or activities within the watershed affect water quality and, sometimes, the supply of water; hence, they affect the aquatic habitat. As examples: farming and construction may cause accelerated erosion, excessive turbidity, and siltation; pesticides used for agriculture, forestry, or urban lawns and gardens may cause pollution; and the use of water for irrigation and domestic or industrial purposes may cause low flow problems in streams or low water levels in reservoirs.

4-3.2.2. Fish Resources. The presence of cold-water or warm-water fish should be a guide in deciding which species to manage. Put-and-take fishing (the release of hatchery-reared fish in waters for fishing purposes) may be justified, but on a sustained basis, where fish populations depend upon reproduction in the wild, the fish species must be adapted to its habitat. Habitat management potentials for selected species are discussed in chapters 2. and 6. Another management objective should be to maintain a good balance between piscivorous or fish-eating fish and forage fish.

4-4. Technical Assistance. Good sources for pertinent references to literature are Sports Fishery Abstracts and Wildlife Review. These periodicals are in most large libraries or can be obtained through the Editorial Office of the US Fish and Wildlife Service (app C, No. 6c). Types of assistance should be designated by all parties to any cooperative agreement.